REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claims 1 and 11 have been amended to incorporate the subject matter of Claim 4 and to recite the controllers in means plus function format. Claims 12-14 have been cancelled.

According to a feature of the invention set forth in all of the claims, a light source unit includes a temperature control means for keeping the light source at a constant temperature, as well as a light source control means for controlling the luminance of each of the plurality of light source elements based upon values detected by a light detector so that the light source unit has substantially constant chromaticity. For example, referring to the exemplary embodiments of Figures 2 and 5, a temperature control section 207 includes a cooling/heating part 208, for example a cooling fan, electric heater or peltier element (page 23, lines 13-22). The controller 209 controls the cooling/heating part 208 based upon the detected temperature so that the detected temperature value approaches a given value or falls within a given range (paragraph bridging pages 23-24). The light source control section 202 can then control the luminance of each of the light source elements in the light source 106 based upon values detected by the light detector 201 so that the light source unit has substantially constant chromaticity.

That is, since chromaticity is a function of color temperature and luminance, the temperature control section maintains a constant light source temperature, and so the light detector can detect the light intensity of the light sources at a constant color temperature. The light source unit can thus be controlled to have substantially constant chromaticity without the need for complex circuitry to compensate for LED temperature variations.

Claims 1-5 were rejected under 35 U.S.C. § 103 as being obvious over Muthu et al in view of the newly cited U.S. patent 5,406,172 (Bennett).

As was explained in the last response, the detected temperature of the LED junctions in Muthu et al is used to estimate the chromaticity coordinates of the LED light sources (paragraph [0031]). The controller derives a required output lumen fraction for each light source and controls a feed forward temperature compensator 70 which controls the LEDs to provide a desired lumen output fraction (paragraphs [0032]-[0033]). That is, although Muthu et al measures the LED temperatures and recognizes that this affects chromaticity, the teaching of the reference is that the luminance of the individual LEDs is then adjusted such that the light source provides light at a desired color temperature. This requires complex circuitry to adjust the luminance of the LED's in view of the detected LED temperatures. As already noted, the presently claimed combination of the light source luminance control with a temperature control that keeps the light source temperature constant minimizes this problem in the control of Muthu.

Nor would Bennett motivate those skilled in the art to modify Muthu in accordance with the claimed invention. Bennett teaches that changes in the color temperature of a laser diode in a fiber optic gyro can cause errors in the automatic current control of the gyro (col. 1, lines 31-39). Bennett therefore teaches a heater and temperature controller to maintain the diode 14 at a constant temperature in order to minimize errors in the automatic current control of the gyro. This has no relation to the problem of improving a display color drift caused by temperature characteristics of the LEDs in various colors as a result of mixing light sources in a plurality of colors such as RBG. Bennett is thus not analogous prior art, and so those skilled in the art would not have been motivated to replace the chromaticity control by luminance adjustment for different LED temperatures in Muthu with the claimed chromaticity control by maintaining a constant LED temperature, simply because Bennett maintains a constant LED temperature in order to minimize errors in the automatic current control of a gyro. For this reason and because the claimed invention minimizes the

complexity inherent in the control of Muthu, the claims define over any combination of these references.

Concerning the rejection of Claims 6 and 11 under 35 U.S.C. § 103 as being obvious over Muthu et al in view of Bennett, and Beretta or Rand et al, respectively, it is again noted that Beretta and Rand et al provide no suggestion for modifying Muthu et al such that a temperature controller keeps the light source at a constant temperature. The claims are therefore believed to define over any combination of the above references.

Applicant therefore believes that the present application is in a condition for allowance and respectfully solicits an early Notice of Allowability.

Respectfully submitted,

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